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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,216	04/11/2001	Daun Singh	3460-0103P	9922

2292 7590 09/16/2002

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EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,216

Applicant(s)

SINGH, DAUN

Examiner

Dang D Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1, 5-11 and 13 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that there is no serious burden to search and examine the entire application. This is not found persuasive because claims 2-4 and 12 recite magnet pairs and a stator with a housing requiring a search. Claims 1, 5-11 and 13 do not require such a search. In addition, claims 1, 5-11 and 13 are directed to the apparatus of a motor while claims 2-4 and 12 are directed to the apparatus of a generator.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The disclosure is objected to because of the following informalities:
- Page 5, lines 20, 23 and 24, correct the reference numerals "104" and "106" for the "satellite tube" and "end plates", respectively.
 - Page 6, lines 1, 3, 4 and last line, correct the reference numerals as mentioned above.
 - Pages 7-9, some words are missing because of punched holes. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 5-11 and 13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification and drawing do not show exactly how the wire loops are wound about the tubes. Figure 4 shows only one part of the wire loop wound about central tube 102.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5-11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang.

Regarding claim 1, Wang shows a device for generating a torque (Figures 2 and 3), comprising:

- A hollow central tube (12);
- A pair of endplates (32, 34) mounted on said central tube, such that said pair of endplates are rotatable about said central tube;
- A plurality of elongate members (14) extending between said pair of endplates and radially spaced apart from said central tube, such that said

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plurality of elongate members are rotatable about said central tube along with said pair of endplates; and

- At least one wire loop (16) made from a shape memory effect material wound about said central tube and each of said plurality of elongate members, said wire having been trained in accordance with shape memory effect principles to asymmetrically deform when locally heated, each of said wire loops being oriented so said asymmetric deformation occurs in the same direction (Figure 2).

Regarding claim 5, it is noted that Wang also shows an engine comprising:

- A central tube (12);
- A pair of endplates (32, 34) mounted on said central tube;
- At least one elongated member (14) extending between said pair of endplates;
- At least one wire loop (16) around the central tube and said elongated member, said wire loop including a shape memory effect material.

Regarding claim 6, it is noted that Wang also shows the central tube being hollow.

Regarding claim 7, it is noted that Wang also shows the endplates being rotatable about the central tube.

Regarding claim 8, it is noted that Wang also shows the wire having been trained in accordance with shape memory effect principles to asymmetrically deform when

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locally heated, each of said wire loops being oriented so said asymmetric deformation occurs in the same direction (Figure 2).

Regarding claim 9, it is noted that Wang also shows a plurality of elongate members (14) extending between the pair of endplates and radially spaced apart from the central tube such that the elongate members and said pair of end plates are rotatable about the central tube.

Regarding claim 10, it is noted that Wang also shows a plurality of said wire loops (16) about the central tube and said elongate member.

Regarding claim 11, it is noted that the method for generating torque would be inherent and obvious since the prior art reference meets the structural limitations of the claimed device.

Regarding claim 13, it is noted that Wang also shows a device for generating torque comprising an engine having shape memory alloys

Information on How to Contact USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

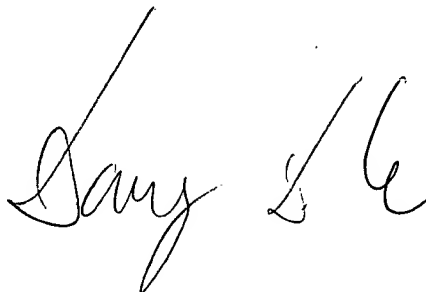
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
September 11, 2002

A small, stylized handwritten signature, possibly initials, in cursive script.A large, stylized handwritten signature in cursive script, appearing to read 'Sany' followed by a flourish.